CLAIMS

1. An image reproducing method comprising:

obtaining digital image data recorded by a digital image recording device

obtaining recording information representing a recording condition specific to the digital image recording device;

storing the digital image data and the recording information together as an image file together in an image server;

carrying out image processing of the image file for enhancing a picture quality of the digital image data having been stored in the storage medium by using the stored recording information to determine an optimal image processing condition; and

reproducing the digital image data on which the image processing has been carried out based on the optimal image processing condition.

2. The image reproducing method as defined in claim 1, before the carrying out image processing step, further comprising:

adding the optimal image processing condition to the digital image data and the recording information for storage as the image file, wherein

the carrying out step carries out the image processing of the image file stored in the storage medium for enhancing the picture quality of the digital image data based on the stored optimal image processing condition added to the image file.

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3. An image reproducing apparatus comprising:

image serving means for storing digital image data and recording information together as an image file in an image server;

image processing means for carrying out an image processing of the image file for enhancing a picture quality of the digital image data using the stored recording information to determine an optimal image processing condition; and

reproducing means for reproducing the digital image data processed by the image processing means based on the optimal image processing condition.

4. The image reproducing apparatus as defined in claim 2 or 5, comprising recording information adding means for adding the recording information to the digital image data.

5. The image reproducing apparatus as defined in claim 3, further comprising:

means for adding the optimal image processing condition to the digital image data and the recording information for storage as the image file, wherein

the image processing means carries out the image processing of the image file stored in the storage medium for enhancing the picture quality of the digital image data based on the stored optimal image processing condition added to the image file.

6. The image reproducing method as defined in claim 1, further comprising:

adding a content of AE processing the recording information.

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7. The image reproducing method as defined in claim 1, further comprising:

adding a designation indicating a direction to halt additional correction to the recording information.

8. The image reproducing method as defined in claim 1, further comprising:

adding a trimming designation function indicator to the recording information for designating an area of the digital image data to be trimmed.

9. The image reproducing method as defined in claim 1, further comprising:

adding at least one of a focusing length and a focusing position to the recording information.

10. The image reproducing method as defined in claim 1, further comprising:

adding at lease one of a lighting condition obtained from a color sensor or exposure meter, a flash occurrence condition, and an outdoor weather indicator to the recording information.

11. The image reproducing method as defined in claim 1, further comprising:

adding a title of the digital image data to the recording information.

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12. The image reproducing apparatus as defined in claim 3, further comprising:

means for adding a content of AE processing the recording information.

13. The image reproducing apparatus as defined in claim 3, further comprising:

means for adding a designation indicating a direction to halt additional correction to the recording information.

14. The image reproducing apparatus as defined in claim 3, further comprising:

means for adding a trimmings designation function indicator to the recording information for designating an area of the digital image data to be trimmed.

15. The image reproducing apparatus as defined in claim 3, further comprising:

means for adding at least one of a focusing length and a focusing position to the recording information.

16. The image reproducing apparatus as defined in claim 3, further comprising:

means for adding at lease one of a lighting condition obtained from a color sensor or exposure meter, a flash occurrence condition, and an outdoor weather indicator to the recording information.

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17. The image reproducing apparatus as defined in claim 3, further comprising:

    means for adding a title of the digital image data to the recording information.

18. An image reproducing apparatus system comprising:

    an image pick up unit that records digital image data;

    a processing unit that provides automatic exposure processing to the digital image data;

and

    a recording information adding unit that adds recording information including a ratio of

an input light amount versus an output voltage of the digital camera to the digital image data and

stores the digital image data and the recording information together as an image file in an image

server.

19. The image reproducing apparatus system of claim 18 further comprising:

    image serving means for storing digital image data and the recording information

together as an image file in an image server;

    image processing means for carrying out an image processing of the image file for

enhancing a picture quality of the digital image data using the stored recording information to

    determine an optimal image processing condition; and

    reproducing means for reproducing the digital image data processed by the image

processing means based on the optimal image processing condition.

21.   A method for processing image data, comprising:

receiving digital image data recorded by a digital image recording device wherein recording information, which is used to enhance picture quality, is added to the digital image data;

storing the digital image data and the recording information together as an image file;

processing the digital image data of the stored image file using the recording information to enhance picture quality;

determining at least one optimal image processing condition to be included in the recording information;

processing the digital image data of the image file using the at least one optimal image processing condition; and

reproducing the digital image using the processed digital image data.

22.   The method of claim 21, wherein the recording information includes at least one of a content of AE processing, a designation for no correction wherein no correction to the digital image data will be made using the recording information during processing, mode setting information wherein additional processing will occur based on the mode setting information, a trimming designation for designating an area of the digital image data to be trimmed, a focusing length, a focusing position, a lighting condition, a flash occurrence condition, descriptive text information, and an outdoor weather indicator.

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23.   The method of claim 22, wherein the lighting condition may be obtained from at least one of a color sensor and exposure meter.

24.   The method of claim 22, wherein mode setting information may include at least one of a portrait designation, a sun set designation, a snow designation, a scenery designation, and a monochrome designation.

26.   The method of claim 21, wherein the image is reproduced using at least one of a monitor and a printer.

27.   The method of claim 21, wherein processing employs a look-up table.

29.   A method for recording image data, comprising:

receiving digital image data recorded by a digital image recording device wherein recording information, which is used to enhance picture quality, is added to the digital image data;

storing the digital image data and the recording information together as an image file to facilitate reproduction of the image from the stored digital image data including the recording information to enable processing with the recording information to enhance picture quality;

determining at least one optimal image processing condition to be included in the recording information;

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processing the digital image data of the image file using the at least one optimal image processing condition; and

reproducing the digital image using the processed digital image data.

30.   The method of claim 29, wherein the recording information includes at least one of a content of AE processing, a designation for no correction wherein no correction to the digital image data will be made using the recording information during processing, mode setting information wherein additional processing will occur based on the mode setting information, a trimming designation for designating an area of the digital image data to be trimmed, a focusing length, a focusing position, a lighting condition, a flash occurrence condition, descriptive text information, and an outdoor weather indicator.

31.   The method of claim 30, wherein the lighting condition may be obtained from at least one of a color sensor and exposure meter.

32.   The method of claim 30, wherein mode setting information may include at least one of a portrait designation, a sun set designation, a snow designation, a scenery designation, and a monochrome designation.

34.   The method of claim 29, wherein the image is reproduced using at least one of a monitor and a printer.

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35.   The method of claim 29, wherein reproduction of the image includes processing the

digital image data and the recording information while employing a look-up table.

38.   A method for processing image data, comprising:

        receiving digital image data representing an image recorded by a digital image

recording device;

        adding recording information, which is used to enhance picture quality, to the

digital image data to form an image file;

        processing the digital image data using the recording information;

        determining at least one optimal image processing condition to be included in the

recording information;

        processing the digital image data of the image file using the at least one optimal

image processing condition; and

        reproducing the digital image using the processed digital image data using the at

least one optimal image processing condition.

39.   The method of claim 38, wherein the recording information includes at least one of a

content of AE processing, a designation for no correction wherein no correction to the digital

image data will be made using the recording information during processing, mode setting

information wherein additional processing will occur based on the mode setting information, a

trimming designation for designating an area of the digital image data to be trimmed, a color

condition, a focusing length, a focusing position, a lighting condition, a flash occurrence

condition, descriptive text information, and an outdoor weather indicator.

40.   The method of claim 39, wherein the lighting condition may be obtained from at least

one of a color sensor and exposure meter.

41.   The method of claim 39, wherein mode setting information may include at least one of a

portrait designation, a sun set designation, a snow designation, a scenery designation, and a

monochrome designation.

42.   The method of claim 38, wherein the image is reproduced using at least one of a

monitor and a printer.

43.   The method of claim 38, wherein processing employs a look-up table.

44.   The method of claim 38, wherein the processing obtains the digital image data and

recording information from the image file.

46.   A method for reproducing images, comprising:

        receiving digital image data representing an image recorded by a digital image

recording device wherein recording information, which is used to enhance picture

quality, is added to the digital image data;

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storing the digital image data and the recording information together as an image

file in memory;

processing the digital image data utilizing the recording information to enhance

picture quality;

reproducing the processed digital image data;

determining at least one optimal image processing condition to be included in the

recording information;

processing the digital image data of the image file using the at least one optimal

image processing condition; and

reproducing the digital image using the processed digital image data using the at

least one optimal image processing condition.

47.   The method of claim 46, wherein the recording information includes at least one of a

content of AE processing, a designation for no correction wherein no correction to the digital

image data will be made using the recording information during processing, mode setting

information wherein additional processing will occur based on the mode setting information, a

trimming designation for designating an area of the digital image data to be trimmed, a color

condition, a focusing length, a focusing position, a lighting condition, a flash occurrence

condition, descriptive text information, and an outdoor weather indicator.

48.   The method of claim 47, wherein the lighting condition may be obtained from at least

one of a color sensor and exposure meter.

49.   The method of claim 47, wherein mode setting information may include at least one of a

portrait designation, a sun set designation, a snow designation, a scenery designation, and a

monochrome designation.

50.   The method of claim 46, wherein the image is reproduced using at least one of a monitor

and a printer.

51.   The method of claim 46, wherein the memory is at least one of random access memory, a

secondary storage device and an image server.

52.   The method of claim 46, wherein processing employs a look-up table.

54.   An apparatus for processing image data, comprising:

        a receiver receiving digital image data recorded by a digital image recording

device and further providing recording information related to the digital image data and

usable to enhance picture quality;

        a storage module storing the digital image data and the recording information

together as an image file;

        a processor, operatively connected to the storage module, for processing the

digital image data of the stored image file using the recording information to enhance

picture quality;

a determining module determining at least one optimal image processing

condition to be included in the recording information;

said processor processing the digital image data of the stored image file using the

at least one optimal image processing condition; and

a reproducer reproducing the digital image using the processed digital image data.

55.   The apparatus of claim 54, wherein the recording information includes at least one of a

content of AE processing, a designation for no correction wherein no correction to the digital

image data will be made using the recording information during processing, mode setting

information wherein additional processing will occur based on the mode setting information, a

trimming designation for designating an area of the digital image data to be trimmed, a focusing

length, a focusing position, a lighting condition, a flash occurrence condition, descriptive text

information, and an outdoor weather indicator.

56.   The apparatus of claim 55, wherein the lighting condition may be obtained from at least

one of a color sensor and exposure meter.

57.   The apparatus of claim 55, wherein mode setting information may include at least one of

a portrait designation, a sun set designation, a snow designation, a scenery designation, and a

monochrome designation.

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59.   The apparatus of claim 54, wherein the reproducer uses at least one of a monitor and a

printer.

60.   The apparatus of claim 54, wherein the processor employs a look-up table.

62.   An apparatus for recording image data, comprising:

        a receiver receiving digital image data recorded by a digital image recording

device relating recording information to the digital image data and usable to enhance

picture quality;

        a storage module storing the digital image data and the recording information

together as an image file to facilitate reproduction of the image from the stored digital

image data using the recording information to enhance picture quality;

        a determining module for determining at least one optimal image processing

condition to be included in the recording information;

        a processor processing the digital image data of the stored image file using the at

least one optimal image processing condition; and

        a reproducer reproducing the digital image using the processed digital image

data.

63.   The apparatus of claim 62, wherein the recording information includes at least one of a

content of AE processing, a designation for no correction wherein no correction to the digital

image data will be made using the recording information during processing, mode setting

information wherein additional processing will occur based on the mode setting information, a

trimming designation for designating an area of the digital image data to be trimmed, a focusing

length, a focusing position, a lighting condition, a flash occurrence condition, descriptive text

information, and an outdoor weather indicator.

64.   The apparatus of claim 63, wherein the lighting condition may be obtained from at least

one of a color sensor and exposure meter.

65.   The apparatus of claim 63, wherein mode setting information may include at least one of

a portrait designation, a sun set designation, a snow designation, a scenery designation, and a

monochrome designation.

67.   The apparatus of claim 62, wherein the reproducer uses at least one of a monitor and a

printer.

68.   The apparatus of claim 62, further comprising a reproducer reproducing the image

including processing the digital image data and the recording information, the reproducer

including a look-up table.

71.   An apparatus for processing image data, comprising:

a receiver receiving digital image data representing an image recorded by a digital

image recording device;

an adder adding to the digital image data, recording information, which is used to

enhance picture quality, to form an image file;

a processor processing the digital image data using the recording information;

a determining module for determining at least one optimal image processing

condition to be included in the recording information;

said processor processing the digital image data using the at least one optimal

image processing condition; and

a reproducer reproducing the digital image using the processed digital image data

using the at least one optimal image processing condition.

72.   The apparatus of claim 71, wherein the recording information includes at least one of a

content of AE processing, a designation for no correction wherein no correction to the digital

image data will be made using the recording information during processing, mode setting

information wherein additional processing will occur based on the mode setting information, a

trimming designation for designating an area of the digital image data to be trimmed, a color

condition, a focusing length, a focusing position, a lighting condition, a flash occurrence

condition, descriptive text information, and an outdoor weather indicator.

73.   The apparatus of claim 72, wherein the lighting condition may be obtained from at least

one of a color sensor and exposure meter.

74.   The apparatus of claim 72, wherein mode setting information may include at least one of

a portrait designation, a sun set designation, a snow designation, a scenery designation, and a

monochrome designation.

75.   The apparatus of claim 71, wherein the reproducer uses at least one of a monitor and a

printer.

76.   The apparatus of claim 71, wherein the processor employs a look-up table.

77.   The apparatus of claim 71, wherein the processor obtains the digital image data and

recording information from the image file.

79.   An apparatus for reproducing images, comprising:

        a receiver receiving digital image data representing an image recorded by a digital

image recording device relating recording information to the digital image data and used

to enhance picture quality;

        a storage module storing the digital image data and the recording information

together as an image file in memory;

        a processor operatively connected to the storage module processing the digital

image data utilizing the recording information to enhance picture quality;

        a reproducer reproducing the processed digital image data;

a determining module determining at least one optimal image processing condition to be included in the recording information;

said processor processing the digital image data using the at least one optimal image processing condition; and

a reproducer reproducing the digital image using the processed digital image data using the at least one optimal image processing condition.

80.   The apparatus of claim 79, wherein the recording information includes at least one of a content of AE processing, a designation for no correction wherein no correction to the digital image data will be made using the recording information during processing, mode setting information wherein additional processing will occur based on the mode setting information, a trimming designation for designating an area of the digital image data to be trimmed, a color condition, a focusing length, a focusing position, a lighting condition, a flash occurrence condition, descriptive text information, and an outdoor weather indicator.

81.   The apparatus of claim 80, wherein the lighting condition may be obtained from at least one of a color sensor and exposure meter.

82.   The apparatus of claim 80, wherein mode setting information may include at least one of a portrait designation, a sun set designation, a snow designation, a scenery designation, and a monochrome designation.

83.   The apparatus of claim 79, wherein the reproducer uses at least one of a monitor and a

printer.

84.   The apparatus of claim 79, wherein the memory is at least one of random access memory,

a secondary storage device and an image server.

85.   The apparatus of claim 79, wherein the processor employs a look-up table.

87.   A computer-readable medium containing instructions to record image data to perform a

method, the method comprising:

receiving digital image data recorded by a digital image recording device wherein

recording information, which is used to enhance picture quality, is added to the digital

image data;

storing the digital image data and the recording information together as an image

file to facilitate reproduction of the image from the stored digital image data including the

recording information to enable processing with the recording information to enhance

picture quality;

determining at least one optimal image processing condition to be included in the

recording information;

processing the digital image data of the image file using the at least one optimal

image processing condition; and

reproducing the digital image using the processed digital image data.

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88.   The computer-readable medium of claim 87, wherein the recording information includes at least one of a content of AE processing, a designation for no correction wherein no correction to the digital image data will be made using the recording information during processing, mode setting information wherein additional processing will occur based on the mode setting information, a trimming designation for designating an area of the digital image data to be trimmed, a focusing length, a focusing position, a lighting condition, a flash occurrence condition, descriptive text information, and an outdoor weather indicator.

89.   The computer-readable medium of claim 88, wherein the lighting condition may be obtained from at least one of a color sensor and exposure meter.

90.   The computer-readable medium of claim 88, wherein mode setting information may include at least one of a portrait designation, a sun set designation, a snow designation, a scenery designation, and a monochrome designation.

91.   The computer-readable medium of claim 88, further including reproducing the image using the processed digital image data.

93.   The computer-readable medium of claim 87, wherein processing employs a look-up table.

95.   A computer-readable medium containing instructions to reproduce images to perform a

method, the method comprising:

        receiving digital image data representing an image recorded by a digital image

recording device wherein recording information, which is used to enhance picture

quality, is added to the digital image data;

        storing the digital image data and the recording information together as an image

file in memory;

        processing the digital image data utilizing the recording information to enhance

picture quality;

        reproducing the processed digital image data

        determining at least one optimal image processing condition to be included in the

recording information;

        processing the digital image data of the stored image file using the at least one

optimal image processing condition; and

        reproducing the digital image using the processed digital image data using the at

least one optimal image processing condition.

96.   The computer-readable medium of claim 95, wherein the recording information includes

at least one of a content of AE processing, a designation for no correction wherein no correction

to the digital image data will be made using the recording information during processing, mode

setting information wherein additional processing will occur based on the mode setting

information, a trimming designation for designating an area of the digital image data to be

trimmed, a color condition, a focusing length, a focusing position, a lighting condition, a flash

occurrence condition, descriptive text information, and an outdoor weather indicator.

97.   The computer-readable medium of claim 96, wherein the lighting condition may be

obtained from at least one of a color sensor and exposure meter.

98.   The computer-readable medium of claim 96, wherein mode setting information may

include at least one of a portrait designation, a sun set designation, a snow designation, a scenery

designation, and a monochrome designation.

99.   The computer-readable medium of claim 95, wherein the image is reproduced using at

least one of a monitor and a printer.

100.   The computer-readable medium of claim 95, wherein the memory is at least one of

random access memory, a secondary storage device and an image server.

101.   The computer-readable medium of claim 95, wherein processing employs a look-up

table.

103.   A computer-storage medium storing at least one data file, wherein the at least one data

file includes digital image data representing a recorded image and recording information, the

recording information being usable to enhance picture quality and being related to at least one of

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a brightness condition, a contrast condition, a color condition, and a focus condition; wherein the

data file is further useable to:

determine at least one optimal image processing condition using the recording

information;

process the digital image data using the at least one optimal image processing

condition; and

reproduce the digital image using the processed digital image data.

104.   The computer-storage medium of claim 103, wherein the recording information includes

at least one of a content of AE processing, a designation for no correction wherein no correction

to the digital image data will be made using the recording information during processing, mode

setting information wherein additional processing will occur based on the mode setting

information, a trimming designation for designating an area of the digital image data to be

trimmed, a focusing length, a focusing position, a lighting condition, a flash occurrence

condition, descriptive text information, and an outdoor weather indicator.

105.   The computer-storage medium of claim 104, wherein the lighting condition may be

obtained from at least one of a color sensor and exposure meter.

106.   The computer-storage medium of claim 104, wherein mode setting information may

include at least one of a portrait designation, a sun set designation, a snow designation, a scenery

designation, and a monochrome designation.

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108.   The computer-storage medium of claim 103, wherein the image is reproduced using at

least one of a monitor and a printer.

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